

ABSTRACT

[0001] A pre-crash assessment system 1 includes a host vehicle 3 in motion. A remote sensor 4, status monitoring sensors 5, and safety device actuators are coupled to the host object. The remote sensor 4 detects target object dynamics. The status monitoring sensors 5 detect host object dynamics. The safety device actuators activate safety devices. A threshold for each safety device actuator is defined by a safety device activation specification. A safety device controller 10, also coupled to the host object, generates tracking signals based on host object and target object dynamics. The safety device controller 10 also estimates future positions of the host and target objects, and estimates whether the potential for crash between the host and target objects is within the threshold criteria for specific safety device actuation. The controller 10 then controls the safety device actuators when the potential for crash is within the pre-determined threshold criteria.